

economic wealth made possible the shipping and equipping of large, trained, well-armed forces. Nonmilitary technological advances such as the iron-tipped plow, the windmill, and the waterwheel all had spread through Europe and allowed monarchs to employ fewer resources in the farming sector and more in science, engineering, writing, and the military. A natural outgrowth of this economic wealth was improved military technology, including guns, which made any single Spanish soldier the equal of several poorly armed natives, offsetting the latter's numerical advantage. But these two factors were magnified by a third element—the glue that held it all together—which was a western way of combat that emphasized group cohesion of free citizens. Like the ancient Greeks and Romans, Cortés's Castilians fought from a long tradition of tactical adaptation based on individual freedom, civic rights, and a "preference for shock battle of heavy infantry" that "grew out of consensual government, equality among the middling classes," and other distinctly Western traits that gave numerically inferior European armies a decisive edge.²¹ That made it possible for tiny expeditions such as Ponce de León's, with only 200 men and 50 horses, or Narváez's, with a force of 600, including cooks, colonists, and women, to overcome native Mexican armies outnumbering them two, three, and even ten times at any particular time.

More to the point, no native culture could have conceived of maintaining expeditions of thousands of men in the field for months at a time. Virtually all of the natives lived off the land and took slaves back to their home, as opposed to colonizing new territory with their own settlers. Indeed, only the European industrial engine could have provided the material wherewithal to maintain such armies, and only the European political constructs of liberty, property rights, and nationalism kept men in combat for abstract political causes. European combat style produced yet another advantage in that firearms showed no favoritism on the battlefield. Spanish gunfire destroyed the hierarchy of the enemy, including the aristocratic dominant political class. Aztec chiefs and Moor sultans alike were completely vulnerable to massed firepower, yet without the legal framework of republicanism and civic virtue like Europe's to replace its leadership cadre, a native army could be decapitated at the head with one volley, whereas the Spanish forces could see lieutenants fall and seamlessly replace them with sergeants.

Did Columbus Kill Most of the Indians?

The five-hundred-year anniversary of Columbus's discovery was marked by unusual and strident controversy. Rising up to challenge the intrepid voyager's courage and vision—as well as the establishment of European civilization in the New World—was a crescendo of damnation, which posited that the Genoese navigator was a mass murderer akin to Adolf Hitler. Even the establishment of European outposts was, according to the revisionist critique, a regrettable development. Although this division of interpretations no doubt confused and dampened many a Columbian festival in 1992, it also elicited a most intriguing historical debate: did the esteemed Admiral of the Ocean Sea kill almost all the Indians? A number of recent scholarly studies have dispelled or at least substantially modified many of the numbers generated by the anti-

Columbus groups, although other new research has actually increased them. Why the sharp inconsistencies? One recent scholar, examining the major assessments of numbers, points to at least *nine* different measurement methods, including the time-worn favorite, guesstimates. Consider the weaknesses in some of the "Columbian holocaust" arguments.

1. Pre-Columbian native population numbers are much smaller than critics have maintained. For example, one author claims "Approximately 56 million people died as a result of European exploration in the New World." For that to have occurred, however, one must start with early estimates for the population of the Western Hemisphere at nearly 100 million. Recent research suggests that that number is vastly inflated, and that the most reliable figure is nearer 53 million, and even that estimate falls with each new publication. Since 1976 alone, experts have lowered their estimates by 4 million. Some scholars have even seen those figures as wildly inflated, and several studies put the native population of North America alone within a range of 8.5 million (the highest) to a low estimate of 1.8 million. If the latter number is true, it means that the "holocaust" or "depopulation" that occurred was one fiftieth of the original estimates, or 800,000 Indians who died from disease and firearms. Although that number is a universe away from the estimates of 50 to 60 million deaths that some researchers have trumpeted, it still represented a destruction of half the native population.

Even then, the guesstimates involve such things as accounting for the effects of epidemics—which other researchers, using the same data, dispute ever occurred—or expanding the sample area to all of North and Central America. However, estimating the number of people alive in a region five hundred years ago has proven difficult, and recently several researchers have called into question most early estimates. For example, one method many scholars have used to arrive at population numbers—extrapolating from early explorers' estimates of populations they could count—has been challenged by archaeological studies of the Amazon basin, where dense settlements were once thought to exist. Work in the area by Betty Meggers concludes that the early explorers' estimates were exaggerated and that no evidence of large populations in that region exists. N. D. Cook's demographic research on the Inca in Peru showed that the population could have been as high as 15 million or as low as 4 million, suggesting that the measurement mechanisms have a "plus or minus reliability factor" of 400 percent! Such "minor" exaggerations as the tendencies of some explorers to overestimate their opponents' numbers, which, when factored throughout numerous villages, then into entire populations, had led to overestimates of millions.

2. Native populations had epidemics long before Europeans arrived. A recent study of more than 12,500 skeletons from sixty-five sites found that native health was on a "downward trajectory long before Columbus arrived." Some suggest that Indians may have had a nonvenereal form of syphilis, and almost all agree that a variety of infections were widespread. Tuberculosis existed in Central and North America long before the Spanish appeared, as did herpes, polio, tick-borne fevers, giardiasis, and amebic dysentery. One admittedly controversial study by Henry Dobyns in *Current Anthropology* in 1966 later fleshed out over the years into his book, argued that extensive epidemics swept North America before Europeans arrived. As one authority summed up the research, "Though the Old World was to contribute to its diseases, the New World certainly was not the Garden of Eden some have depicted." As one might expect, others challenged Dobyns and the "early epidemic" school, but the point remains that experts are divided. Many now discount the notion that huge epidemics swept through Central and North America; smallpox, in particular, did not seem to spread as a pandemic.

3. There is little evidence available for estimating the numbers of people lost in warfare prior to the Europeans because in general natives did not keep written records. Later, when whites could document oral histories during the Indian wars on the western frontier, they found that different tribes exaggerated their accounts of battles in totally different ways, depending on tribal custom. Some, who preferred to emphasize bravery over brains, inflated casualty numbers. Others, viewing large body counts as a sign of weakness, de-emphasized their losses. What is certain is that vast numbers of natives were killed by other natives, and that only technological backwardness—the absence of guns, for example—prevented the numbers of natives killed by other natives from growing even higher.
4. Large areas of Mexico and the Southwest were depopulated more than a hundred years before the arrival of Columbus. According to a recent source, "The majority of Southwesternists . . . believe that many areas of the Greater Southwest were abandoned or largely depopulated over a century before Columbus's fateful discovery, as a result of climatic shifts, warfare, resource mismanagement, and other causes." Indeed, a new generation of scholars puts more credence in early Spanish explorers' observations of widespread ruins and decaying "great houses" that they contended had been abandoned for years.
5. European scholars have long appreciated the dynamic of small-state diplomacy, such as was involved in the Italian or German small states in the nineteenth century. What has been missing from the discussions about native populations has been a recognition that in many ways the tribes resembled the small states in Europe: they concerned themselves more with traditional enemies (other tribes) than with new ones (whites).

Sources: The best single review of all the literature on Indian population numbers is John D. Daniels's "The Indian Population of North America in 1492," *William and Mary Quarterly*, April 1999, pp. 298–320. Among those who cite higher numbers are David Meltzer, "How Columbus Sickened the New World," *The New Scientist*, October 10, 1992, 38–41; Francis L. Black, "Why Did They Die?" *Science*, December 11, 1992, 139–140; and Alfred W. Crosby Jr., *Ecological Imperialism: The Biological Expansion of Europe, 900–1900* (New York: Cambridge University Press, 1986). Lower estimates come from the Smithsonian's Douglas Ubelaker, "North American Indian Population Size, A.D. 1500–1985," *American Journal of Physical Anthropology*, 77 (1988), 289–294; and William H. MacLeish, *The Day Before America* (Boston: Houghton Mifflin, 1994). Henry F. Dobyns, *American Historical Demography* (Bloomington, Indiana: Indiana University Press, 1976), calculated a number somewhat in the middle, or about 40 million, then subsequently revisited the argument, with William R. Swagerty, in *Their Number Become Thinned: Native American Population Dynamics in Eastern North America*, Native American Historic Demography Series (Knoxville, Tennessee: University of Tennessee Press, 1983). But, as Nobelist David Cook's study of Incaic Peru reveals, weaknesses in the data remain; see *Demographic Collapse: Indian Peru, 1520–1660* (Cambridge: Cambridge University Press, 1981). Betty Meggers's "Prehistoric Population Density in the Amazon Basin" (in John W. Verano and Douglas H. Ubelaker, *Disease and Demography in the Americas* [Washington, D.C.: Smithsonian Institution Press, 1992], 197–206), offers a lower-bound 3 million estimate for Amazonia (far lower than the higher-bound 10 million estimates). An excellent historiography of the debate appears in Daniel T. Reff, *Disease, Depopulation, and Culture Change in Northwestern New Spain, 1518–1764* (Salt Lake City, Utah: University of Utah Press, 1991). He argues for a reconsideration of disease as the primary source of depopulation